

What is claimed is:

1. A pharmaceutical or veterinary drug which comprises
 - (i) an effective amount of at least one or more members selected from the group consisting of
 - (a) galectin 9 and analogs thereof;
 - (b) polynucleotides each coding for galectin 9 or a polypeptide having a biological activity substantially equivalent to that owned by galectin 9;
 - (c) inducing factors for production and/or release of galectin 9;
 - (d) anti-galectin 9-receptor antibodies; and
 - (e) antibodies against a galectin 9-binding saccharide,
 - (ii) wherein said drug is selected from the group consisting of anti-tumor (antineoplastic) agents, anti-allergic agents, immunosuppressants, drugs for auto-immune diseases, anti-inflammatory agents, and active components for adrenocortical steroid hormone alternatives.
2. An antineoplastic agent comprising an effective amount of at least one or more members selected from the group consisting of galectin 9 and peptide analogs thereof.
3. An anti-allergic agent comprising an effective amount of at least one or more members selected from the group consisting of galectin 9 and peptide analogs thereof.
4. An immunosuppressant comprising an effective amount of at least one or more members selected from the group consisting of galectin 9 and peptide analogs thereof.
5. A drug for auto-immune diseases, comprising an effective amount of at least one or more members selected from the group consisting of galectin 9 and peptide analogs thereof.

6. An anti-inflammatory agent comprising an effective amount of at least one or more members selected from the group consisting of galectin 9 and peptide analogs thereof.

7. An adrenocortical steroid hormone alternative comprising an effective amount of at least one or more members selected from the group consisting of galectin 9 and peptide analogs thereof.

8. A tumor cytotoxic therapeutic agent for malignant cells which comprises an effective amount of at least one or more members selected from the group consisting of (a) galectin 9 and Gal-9 analogs, and (b) polynucleotides each coding for galectin 9 or a polypeptide having a biological activity substantially equivalent to that owned by galectin9.

9. An antimetastatic agent for cancer cells, which comprises an effective amount of at least one or more members selected from the group consisting of (a) galectin 9 and Gal-9 analogs, and (b) polynucleotides each coding for galectin 9 or a polypeptide having a biological activity substantially equivalent to that owned by galectin9.

10. A cytotoxic drug for tumor cells which comprises an effective amount of at least one or more members selected from the group consisting of

- (a) galectin 9 and analogs thereof;
- (b) polynucleotides each coding for galectin 9 or a polypeptide having a biological activity substantially equivalent to that owned by galectin 9;
- (c) inducing factors for production and/or release of galectin 9;
- (d) anti-galectin 9-receptor antibodies; and
- (e) antibodies against a galectin 9-binding saccharide.

11. An apoptosis-inducing drug for tumor cells, which comprises an effective amount of at least one or more members selected from the group consisting of

- (a) galectin 9 and analogs thereof;
- (b) polynucleotides each coding for galectin 9 or a polypeptide having a biological activity substantially equivalent to that owned by galectin 9;
- (c) inducing factors for production and/or release of galectin 9;
- (d) anti-galectin 9-receptor antibodies; and
- (e) antibodies against a galectin 9-binding saccharide.

12. An apoptosis-inducing drug for immune cells, including especially activated T cells, which comprises an effective amount of at least one or more members selected from the group consisting of

- (a) galectin 9 and analogs thereof;
- (b) polynucleotides each coding for galectin 9 or a polypeptide having a biological activity substantially equivalent to that owned by galectin 9;
- (c) inducing factors for production and/or release of galectin 9;
- (d) anti-galectin 9-receptor antibodies; and
- (e) antibodies against a galectin 9-binding saccharide.

13. A prophylactic and/or therapeutic agent for diseases or pathological conditions, caused by activated T cells, which comprises an effective amount of at least one or more members selected from the group consisting of

- (a) galectin 9 and analogs thereof;
- (b) polynucleotides each coding for galectin 9 or a polypeptide having a biological activity substantially equivalent to that owned by galectin 9;
- (c) inducing factors for production and/or release of galectin 9;
- (d) anti-galectin 9-receptor antibodies; and

(e) antibodies against a galectin 9-binding saccharide.

14. A galectin 9-binding factor which is selected from the group consisting of

4F2 heavy chain antigen (177216);
ATPase, Na⁺ /K⁺ transporting, alpha 1 polypeptide (21361181);
sodium-dependent neutral amino acid transporter type 2 truncated isoform (15004317);
stromal cell derived factor receptor 1 isoform a (9257240);
stromal cell derived factor receptor 1 isoform b;
heat shock 90kDa protein 1, beta (20149594);
heat shock 90kDa protein 1, alpha; heat shock 70kDa protein 5 (glucose-regulated protein, 78kDa) (16507237);
heat shock 70kDa protein 8 isoform 2 (24234686);
heat shock 70kDa protein 9B precursor (24234688);
fatty-acid-Coenzyme A ligase, long-chain 3 (27469830);
NADH dehydrogenase (ubiquinone) Fe-S protein 1, 75kDa (NADH-coenzyme Q reductase) (4826856);
S-adenosylhomocysteine hydrolase-like 1 (21361647);
programmed cell death 8 isoform 1 (4757732);
60 kDa heat shock protein, mitochondrial precursor (129379);
ATP synthase, H⁺ transporting, mitochondrial F1 complex, alpha subunit, isoform 1, cardiac muscle (4757810);
ribophorin II precursor (88567);
farnesyl-diphosphate farnesyltransferase 1 (4758350);
Ubiquinol-cytochrome C reductase complex core protein 2, mitochondrial precursor (21903482);
dolichyl-diphosphooligosaccharide-protein glycosyltransferase (21104416);
calcium-binding transporter (6841066);
NADH dehydrogenase-ubiquinone Fe-S protein 2 precursor (3540239);
actin, beta (14250401); translation elongation factor EF-Tu-like protein P43 precursor, mitochondrial

(7443384);
metaxin 1 (4505281);
sideroflexin 1 (23618867);
TCR beta chain (2982508);
Hnrnp Al (2194069);
phosphate carrier precursor isoform 1b (4505775);
ATP synthase, H⁺ transporting, mitochondrial F1 complex,
gamma polypeptide 1 (4885079);
voltage-dependent anion channel 1 (4507879);
hyaluronan-binding protein precursor (8699626);
androgen-regulated short-chain dehydrogenase/reductase 1
(20070798);
solute carrier family 25 (mitochondrial carrier;
oxoglutarate carrier), member 11 (21361114);
3-hydroxybutyrate dehydrogenase precursor (17738292);
B-cell receptor associated protein (1673514);
ATP synthase, H⁺ transporting, mitochondrial F1 complex,
O subunit (4502303);
ATP synthase, H⁺ transporting, mitochondrial F0 complex,
subunit d (5453559);
ATP synthase, H⁺ transporting, mitochondrial F0 complex,
subunit b, isoform 1 (21361565);
small GTP-binding protein (13569962);
NADH dehydrogenase (ubiquinone) Fe-S protein 8, 23kDa
(NADH-coenzyme Q reductase) (4505371);
vesicle trafficking protein sec22b (4759086);
mitochondrial import receptor Tom22 (9910382);
signal sequence receptor, delta (5454090);
ATP synthase, alpha chain (114517 or P25705);
ATP synthase, beta chain (114549 or P06576);
Sodium/potassium-transporting ATPase beta-3 chain
(1703470 or P54709);
ADP, ATP carrier protein (113463, P12236, 113459, P05141,
113455 or P12235);
ubiquinol-cytochrome C reductase complex core protein 1
(731047 or P31930); and
Cytochrome c oxidase polypeptide II (117020 or P00403)

wherein each number in parentheses indicates a "GenInfo Identifier" sequence identification number assigned to each specific protein in databases where protein information and/or nucleotide sequence information (including data of DNA coding for the protein) is acquired by the entry of said number at the NCBI internet home page (<http://www.ncbi.nlm.nih.gov/>).

15. A technique for controlling the activity of galectin 9 which comprises utilizing any of interactions between the galectin 9-binding factor according to Claim 14 and galectin 9.